Hudson Bay Mining and Smelting Co., Limited

annual report 1977

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Contents

A summer sunset at Flin Flon, Manitoba

Cover: mine geologist (centre) and raise miners exchanging rock information in front of Alimak raise machine in Westarm Mine

Hudson Bay Mining and Smelting Co., Limited

Hudson Bay Mining, its subsidiaries and associated companies form a diversified natural-resource organization with operations mainly in North America but also elsewhere in the world. A leading producer of copper and zinc from its own mines and metallurgical plants in Canada, Hudson Bay Mining's other major investments include: copper mining in the United States; crude oil and natural gas in Canada, the U.S. and Indonesia; fertilizers, crop-protection chemicals and feed ingredients in the U.S.; industrial chemicals and zinc die-castings in Canada and exploration services.

Although diversification has substantially reduced Hudson Bay Mining's dependency on base metals, these remain a key factor in the Company's future. At the same time, management is constantly seeking suitable opportunities for growth and diversification in all natural resources in Canada and elsewhere.

Hudson Bay Mining is a Canadian company and was incorporated on December 27, 1927. The authorized capital comprises 15,000,000 Class A and 15,000,000 Class B convertible common shares without par value. The Class A and Class B shares are freely interconvertible at any time, on a one-for-one basis, at the option of the shareholder and rank equally in all respects, except that dividends paid to holders of Class B shares are tax-deferred. Both classes of shares are traded on The Toronto Stock Exchange, New York Stock Exchange and Montreal Stock Exchange. At the end of 1977, the Company had 12,140 shareholders and the total number of shares, Class A and B, issued and fully paid was 10,101,739.

Financial

Even though our earnings for 1977 before extraordinary items rose to $4,413,000 from $2,819,000 for the previous year, 1977 was not a good year and our earnings continue to represent an inadequate return on our assets.

A number of important points regarding our earnings for 1977 should be noted:

– the results include $2,295,251, net of minority interest, which represents unrealized exchange gains arising from the translation of United States subsidiaries' accounts into Canadian dollars. This amount does not represent realized gains for your Company;

– as shareholders are aware, our Sylvite potash mine was sold, under threat of expropriation, to a Crown corporation of the Saskatchewan Government near the end of April, 1977. The working capital, consisting mainly of accounts receivable and inventories of potash, was not included in the sale and profits from its realization contributed materially to earnings for the second quarter;

– the after-tax book gain on the sale of the Sylvite mine was the largest factor in the extraordinary earnings of $52,577,000.

Our Canadian Metals Division made a small profit in spite of continuing weak metal markets in Canada and elsewhere. However, depressed markets, production cutbacks and a two-month strike in the United States were mainly responsible for the loss of U.S.$11,142,000 reported by Inspiration Consolidated Copper Company. The rising cost of natural gas and slightly weaker fertilizer prices, particularly in the fall season, reduced Terra Chemicals International, Inc.'s profits to U.S.$7,971,000, which was 33.5% lower than in the previous year. Offsetting these disappointing results were the improved performances of our petroleum subsidiaries, Francana Oil & Gas Ltd. and Canadian Merrill Ltd., as a result of greater production and higher product prices.

In view of the nature of our earnings, unsatisfactory operating cash flows and particularly the discouraging outlook for base-metal markets, the Board of Directors concluded that it would be prudent to omit the dividend for the third quarter as well as for the fourth quarter. The Board also took into account the change in the timing of dividend payments which was initiated early last year and resulted in the payment of four dividends in 1977.

Metals

The Canadian Metals Division mined more ore and produced more metals than in 1976 at its Flin Flon – Snow Lake operations in spite of the continuing shortage of skilled labor and the high turnover among new employees. In addition, two new mines have been brought into production, Centennial Mine on June 30 and Westarm Mine on January 3, 1978, and a $26-million concentrator is being built near Snow Lake.

Constructing the crusher room in Westarm Mine

In view of the costly turnover of employees, largely in the young unmarried category, we are constantly improving our career-development programs to increase the stability of our labor force. One of the unfortunate effects of the high turnover in the labor force has been an increase in the accident-frequency rate. Management's concern is shared by union officials, who have expressed their complete support for the new safety program launched by the Company. The new program re-emphasizes safety awareness and stresses improved procedures and practices at all worker and supervisory levels on surface and underground.

Operating costs continue to rise, especially in mining where it is difficult to achieve economies of scale due to the relatively small size of our orebodies. Considerable progress in containing costs is being made, however, through improved mining methods and more mechanization. At the same time, operating controls and procedures are being tightened.

With respect to our other mining interests, Inspiration Consolidated Copper initiated a $6-million overhaul program while operations were shut down by the strike in the U.S. Smelting, refining and rod plant operations were resumed following the end of the strike but mining and concentrating operations remained idle until January, 1978. Whitehorse Copper Mines Ltd. in the Yukon operated satisfactorily and realized a modest profit. The flow of ore was improved by a new underground crusher and conveyor system. Unfortunately, no major extensions of ore were located and the limits of the orebody are now defined. Lytton Minerals decided not to develop the La Verde copper deposit in Mexico because a reassessment of the project's economics indicated an unsatisfactory return on investment. The Mexican Government's one-year extension of the planning period for new projects does not affect Lytton's decision; it merely provides additional time to consider the future status of La Verde and Lytton.

Oil and gas

Higher product prices, increased production and improved access to markets resulted in a positive contribution to our net earnings from the companies comprising this sector, namely 61%-owned Canadian Merrill Ltd., 55%-owned Francana Oil & Gas Ltd. and Francana's 57%-owned subsidiary, Trend International Limited.

All three companies continued their exploration and development programs in 1977 and expect to increase these activities in 1978. Francana's major achievement was the discovery of heavy oil and gas in the Tangleflags field in west-central Saskatchewan and it has acquired additional exploratory acreage in the area. Merrill continued exploration and development drilling in western Colorado where a significant gas discovery was made; a multi-well program and pipeline tie-ins are planned for 1978. A number of prospects were identified during the year on lands acquired during 1976-77 and will be drilled in the near future.

Trend plans to drill several newly defined, high-risk prospects in the Salawati basin of western Irian Jaya in Indonesia, and to participate in the drilling of an exploratory well offshore Turkey and in the Panay Gulf, Philipines. The evaluation of geophysical data obtained in 1977 may lead to the drilling of an exploratory well on an 18-million-acre licence in Paraguay. In the U.S., Trend continued exploration in several promising areas and development drilling will be concentrated in several western states.

Fertilizers and other agricultural products

From March 7, when the Company announced it had agreed in principle to sell its Sylvite Division to the Potash Corporation of Saskatchewan, production of potash continued at a high rate until April 22 when the sale was consummated. This tonnage, plus all the refined product in storage at the mine, was shipped by the end of April. By June 30, all inventories of potash in warehouses in the U.S. and Canada had been sold, resulting in a significant contribution to profits in the second quarter.

Terra Chemicals, of the U.S., in which we hold a 51% equity interest, experienced difficult conditions in 1977. Costs of natural gas were significantly higher, there was a drop in the rate of fertilizer application during the fall, reflecting depressed grain prices following high yields, and a negative reaction by farmers to the uncertainties created by the U.S. Government's agricultural policies. As a result, earnings in the last two quarters of 1977 were depressed.

On the positive side is Terra's major capital program: a new ammonia plant at Woodward, Oklahoma, in which it has a 25% interest, came on stream in October; an upgrading facility adjacent to the Woodward plant is nearing completion; urea-producing facilities at Terra's Port Neal plant are being expanded; and marketing operations have been enlarged by the acquisition of certain fertilizer bulk-blending operations and distribution outlets in the southern and southwestern regions of the U.S.

Industrial products

During the year, Francana Minerals Ltd., 60%-owned, Hudson Bay Diecastings Limited and Zochem Limited, both wholly-owned, and Sylvite marketing personnel were grouped together for organizational purposes. The industrial products group as a whole made a small profit for the year despite rising costs and stiff competition for sales.

The diecasting plant remained competitive as a result of high-quality castings and good deliveries and also benefited from the favorable U.S. dollar exchange rate. Buffing and plating capacity will be doubled upon completion of a 40,000-sq.-ft. extension to the plant, which will bring these operations into balance with diecasting capacity.

Zochem has largely overcome the production problems associated with its Zocofax photoconductive-grade zinc oxide and now is in good position to regain its share of the market, especially in the U.S. Markets in general remained weak throughout the year.

Modifications to the dredge used by Francana Minerals have improved production considerably and the recovery of raw salt for the production of sodium sulphate is no longer completely dependent on weather conditions.

The Sylvite sales staff is selling Cominco Ltd.'s potash in Eastern Canada on a commission basis under an exclusive three-year contract.

Outlook

Metals

Copper and zinc prices are so far below average world costs that it seems unlikely they could fall significantly lower. Nevertheless, it is difficult to predict a sustained upturn in the immediate future.

In the case of copper at least, it would seem that current supply and demand are approximately in balance due in part to substantial reductions in U.S. production. There remains, however, a very considerable accumulation of surplus inventory which will have to be reduced by either a strong growth in demand or further reductions in supply. The demand aspect is largely dependent on the performances of major industrial economies, which still appear beset by uncertainties. The possibility that a U.S. Government stockpile will remove some of the surplus from the market exists and would undoubtedly help, as would the implementation of the 15% production cutback announced by Zambia, Zaire and Peru.

Another helpful sign for the Canadian metal mining industry is the apparent realization by various levels of government, and by the public generally, of the disastrous effects of recent fiscal and other policies dealing with natural-resource development and of the urgency of restoring a climate that encourages investment.

Fertilizers and other agricultural products

Demand for fertilizer in the spring is expected to be strong in view of the likely increase in U.S. grain exports, a modest improvement in grain prices, the lower applications rates last fall, and adequate soil moisture from fall rains. Consequently, a compressed spring season is anticipated, with heavy demands on product transportation facilities. Although an acreage set-aside program for corn may reduce fertilizer demand, higher application rates on remaining acres could compensate for this reduction.

Oil and gas

In Canada, the federal and provincial governments have recognized the necessity of allowing the industry to earn profits commensurate with the major investments of risk capital required to find and develop new hydrocarbon reserves. As a result, Canadian crude-oil prices are scheduled to increase to world levels during the next few years with gas prices being similarly adjusted on a heating-value basis. There is a possibility that the current gas surplus in Western Canada will be eliminated by short-term exports under a swap arrangement for Alaskan gas.

In the United States, exploration and development drilling are continuing at near-record levels, although there is considerable uncertainty over the U.S. Government's energy policies, particularly as to gas pricing. However, the commitment to reduce the country's dependency on offshore energy supplies and the partial relaxation of gas price controls during the past year should produce record levels of activity.

Industrial products

Sales of detergent-grade sodium sulphate, at current prices, are expected to be substantially lower than in 1977. The market for lower-grade sodium sulphate, or salt cake, will remain weak until there is an increase in production and consumption of kraft pulp throughout the world.

The automotive industry's efforts to reduce gasoline consumption through weight reduction have reduced the market for zinc diecastings in favor of plastic parts and several diecasting plants have closed. The increased competition will probably prevent Hudson Bay Diecastings from immediately increasing its earnings, but a larger share of the market is anticipated when its expanded buffing and plating facilities reach full capacity.

The major markets for zinc oxide – the rubber industry and photoconductive paper makers – will remain weak until there is an improvement in the North American economy. Meanwhile, the instability in pricing resulting from increased capacity and aggressive marketing throughout the zinc oxide industry is expected to continue for some time.

Summary

While 1977 has been a very difficult and disappointing year we have nevertheless made considerable progress in identifying and resolving problems in many areas, and with capital programs in many of the operations. Earnings were disappointing, particularly in the last two quarters, and our cash position, although healthy as a result of the sale of the Sylvite division, was depleted by capital expenditures as well as by operating cash outflows. In view of this and the poor outlook, the Board decided to omit dividend payments in respect of the third and fourth quarters, although, as a result of a change in the basis of paying dividends, four dividends were paid in 1977.

The market outlook for the commodities in which we are interested remains discouraging and considerable emphasis is being placed on containing our negative operating cash flows. We will continue to strive to improve the effectiveness of our operations and to look for major new investments in the natural-resource area to replace the Sylvite division.

On behalf of the Board,

W R Fraser

Chairman

W Olson

President

March 2, 1978

Removing chrome-plated zinc-base diecastings from conveyor racks at Hudson Bay Diecastings Limited

Operating properties, subsidiaries and major holdings *(Ownership is 100% unless indicated otherwise)*

Metals

Canada

Canadian Metals Division
  Anderson Lake Mine
  Centennial Mine
  Chisel Lake Mine
  Flin Flon Mine and metallurgical plants
  Ghost Lake Mine
  Osborne Lake Mine
  Stall Lake Mine
  Westarm Mine
  White Lake Mine
  Whitehorse Copper Mines Ltd. (41.2%)
Lytton Minerals Limited (33.9%)
Stikine Copper Limited (34.9%)

United States

Inspiration Consolidated Copper Company (23.4%)

Mexico

Compania Cuprifera La Verde, S.A.
  (Lytton holds 47.5%)

Service companies

Beaver Exploration Company
Churchill River Power Company Limited
Hudson Bay Air Transport Limited
Hudson Bay Exploration and Development Company Limited
Minsearch Surveys Limited (35%)
Northern Power Limited

Oil and gas

Canada

Canadian Merrill Ltd. (61.9%)
Francana Oil & Gas Ltd. (54.9%)

United States

Trend International Limited
  (Francana Oil & Gas holds 56.8%)

Indonesia

Petromer Trend Division of Trend International Limited

Service companies

Barringer Hydrocarbons Limited (15%)

Fertilizers and agricultural products

United States

Terra Chemicals International, Inc. (50.5%)

Industrial products

Canada

Francana Minerals Ltd. (60%)
Sodium Sulphate (Saskatchewan) Ltd.
  (Francana Minerals holds 100%)
Hudson Bay Diecastings Limited
Sylvite Sales
Zochem Limited

Hudson Bay Mining and Smelting Co., Limited

Financial Statements

For the years ended December 31, 1977 and 1976

Statements of earnings

For the years ended December 31, 1977 and 1976

	Consolidated		Unconsolidated	
	1977	1976	1977	1976
	(in thousands)			
Revenues:				
Net sales	$346,346	$343,647	$154,178	$180,891
Interest and other income (Note 11)	18,890	3,831	9,382	2,362
	365,236	347,478	163,560	183,253
Costs and expenses:				
Cost of sales	240,512	222,487	133,671	144,728
Depreciation, depletion and amortization	31,233	46,440	13,785	15,612
Exploration expenses	2,755	2,881	2,534	2,918
General administrative expenses	13,844	10,242	6,253	5,092
Interest (Note 6)	12,041	10,620	8,152	9,522
	300,385	292,670	164,395	177,872
Earnings (loss) before taxes	64,851	54,808	(835)	5,381
Income taxes, mining taxes and royalties:				
Mining taxes and royalties	13,967	12,710	4,962	10,069
Income taxes (recoveries) (Note 12)	26,670	36,494	(1,074)	(149)
	40,637	49,204	3,888	9,920
Earnings (loss) from operations	24,214	5,604	(4,723)	(4,539)
Other items:				
Minority interest in earnings of subsidiaries	(16,677)	(4,006)	—	—
Equity in earnings of subsidiary companies	—	—	12,282	6,244
Equity in earnings (losses) of associated companies	(2,620)	2,224	(2,642)	2,117
Provision for future write-offs of investments	(504)	(1,003)	(504)	(1,003)
	(19,801)	(2,785)	9,136	7,358
Earnings before extraordinary items:	4,413	2,819	4,413	2,819
Extraordinary items (Note 13)	52,577	(11,098)	52,577	(11,098)
Net earnings (loss) for the year	$ 56,990	$ (8,279)	$ 56,990	$(8,279)
Earnings (loss) per share (Note 10):				
Before extraordinary items	$ 0.44	$ 0.28	$ 0.44	$ 0.28
After extraordinary items	$ 5.64	$ (0.83)	$ 5.64	$ (0.83)

Statements of retained earnings

For the years ended December 31, 1977 and 1976

Retained earnings at beginning of the year	$132,579	$148,876	$132,579	$148,876
Net earnings (loss) for the year	56,990	(8,279)	56,990	(8,279)
	189,569	140,597	189,569	140,597
Dividends – 1977 – $0.60 per share; 1976 – $0.80 per share	6,061	8,018	6,061	8,018
Retained earnings at end of the year	$183,508	$132,579	$183,508	$132,579

See accompanying notes to the financial statements.

Statements of financial position

As at December 31, 1977 and 1976

	Consolidated		Unconsolidated	
	1977	1976	1977	1976
	(in thousands)			
Current assets:				
Cash	$ 11,585	$ 4,618	$ 309	$ 3
Short-term securities	144,485	46,119	128,740	24,901
Accounts receivable	53,632	48,916	16,227	16,303
Inventories – metals and metal products	43,994	33,941	41,081	29,398
– fertilizers and chemicals	41,446	22,777	—	1,074
Income taxes recoverable	2,508	—	—	—
Total current assets	297,650	156,371	186,357	71,679
Deduct:				
Current liabilities:				
Accounts and notes payable (Note 5)	64,787	47,561	27,825	32,572
Accrued liabilities	11,350	11,602	10,699	7,965
Dividend payable	—	2,020	—	2,020
Deferred oil income (Note 2)	3,354	—	—	—
Income and other taxes payable	277	6,888	673	3,571
Current portion of long-term debt	2,344	2,542	—	1,211
Total current liabilities	82,112	70,613	39,197	47,339
Working capital	**215,538**	**85,758**	**147,160**	**24,340**
Add:				
Investments (Note 3)	42,927	53,530	137,290	137,284
Property, plant and equipment (Note 4)	258,962	246,863	91,313	130,595
Other assets	19,197	19,525	16,074	17,159
Capital employed	**536,624**	**405,676**	**391,837**	**309,378**
Deduct:				
Long-term debt (Note 6)	110,994	93,216	73,879	77,581
Deferred income taxes	83,845	37,578	63,203	27,971
Minority interest in subsidiaries	87,030	71,056	—	—
	281,869	201,850	137,082	105,552
Shareholders' investment	**$254,755**	**$203,826**	**$254,755**	**$203,826**
Investment represented by:				
Capital stock (Notes 8 and 9)	$ 71,247	$ 71,247	$ 71,247	$ 71,247
Retained earnings	183,508	132,579	183,508	132,579
Total shareholders' investment	**$254,755**	**$203,826**	**$254,755**	**$203,826**

Approved by the Board of Directors

Director: H. R. Fraser

Director: E. P. Gush

See accompanying notes to the financial statements.

Statements of changes in financial position

For the years ended December 31, 1977 and 1976

	Consolidated		Unconsolidated	
	1977	1976	1977	1976
	(in thousands)			
Funds provided:				
Operations:				
Earnings (loss) from operations	$ 24,214	$ 5,604	$ (4,723)	$ (4,539)
Depreciation, depletion and amortization	31,233	46,440	13,785	15,612
Deferred income taxes	10,386	3,599	3,832	1,475
Share of earnings of joint venture	—	(503)	—	(503)
	65,833	55,140	12,894	12,045
Dividends from subsidiary companies	—	—	3,651	2,442
Dividends from associated companies	162	675	153	621
Cash distribution from joint venture	—	672	—	672
	65,995	56,487	16,698	15,780
Net proceeds from sale of potash division assets, less current income taxes (Note 13)	140,764	—	140,764	—
Proceeds from long-term debt	16,200	9,333	—	—
Realization of investments	2,670	36,551	6,558	33,715
Issue of shares	—	2,805	—	2,805
Decrease in other assets	—	535	—	1,495
	225,629	105,711	164,020	53,795
Funds applied:				
Dividends	6,061	8,018	6,061	8,018
Dividends paid by subsidiaries to minority interests	6,152	4,083	—	—
Working capital deficiency of Canadian Merrill Ltd. (Note 3)	2,895	—	—	—
Other investments	8,411	17,254	1,776	8,480
Property, plant and equipment	64,771	46,762	28,328	21,290
Reduction of long-term debt	6,133	2,542	3,702	1,234
Increase in other assets	1,426	—	1,333	—
	95,849	78,659	41,200	39,022
Increase in working capital	129,780	27,052	122,820	14,773
Working capital at beginning of the year	85,758	58,706	24,340	9,567
Working capital at end of the year	$215,538	$ 85,758	$147,160	$ 24,340
Changes in working capital represented by:				
Increase (decrease) in current assets:				
Cash	$ 6,967	$ 964	$ 306	$ 3,022
Short-term securities	98,366	33,004	100,603	17,201
Accounts receivable	4,716	(2,805)	(76)	(4,601)
Inventories – metals and metal products	10,053	(5,398)	11,683	(5,487)
– fertilizers and chemicals	18,669	(88)	(1,074)	79
Income taxes recoverable	2,508	—	—	—
	141,279	25,677	111,442	10,214
(Increase) decrease in current liabilities:				
Accounts and notes payable	(17,226)	2,970	5,583	8,647
Accrued liabilities	252	917	(2,734)	(26)
Dividend payable	2,020	(32)	2,020	(32)
Deferred oil income	(3,354)	—	—	—
Income and other taxes payable	6,611	(3,056)	5,298	(4,052)
Current portion of long-term debt	198	576	1,211	22
	(11,499)	1,375	11,378	4,559
Increase in working capital	$129,780	$ 27,052	$122,820	$ 14,773

See accompanying notes to the financial statements.

1. Summary of significant accounting policies

Generally accepted accounting principles:

The financial statements are prepared in conformity with generally accepted accounting principles as established in Canada, which conform in all material respects with those established in the United States, except as explained under the caption Foreign Currency Translation.

Principles of consolidation:

The consolidated financial statements include the accounts of Hudson Bay Mining and Smelting Co., Limited and all companies more than 50%-owned. In addition, the Company follows the equity method of accounting for its interest in associated companies in which it owns from 20% to 50% of the common shares.

As explained in Note 3, the Company acquired additional interests in Canadian Merrill Ltd. during 1977 which resulted in this company becoming a subsidiary and being included on a consolidated basis from January 1, 1977. Prior to that date, this investment was accounted for by the equity method.

Unconsolidated subsidiary companies:

In the unconsolidated financial statements, the Company follows the equity method of accounting for its investments in the subsidiary companies.

Inventories, materials and supplies:

Inventories of base metals, fertilizers and chemicals and all other saleable products are valued at the lower of cost or estimated net realizable value, base-metal byproducts are valued at estimated net realized value. Materials and supplies are valued at cost. Cost is determined on the first-in, first-out basis, except the inventories of a subsidiary, Terra Chemicals International, Inc., which are valued on the last-in, first-out basis and which represent substantially all of the inventories of fertilizers and chemicals.

Property, plant and equipment:

Mineral properties – Exploration costs with respect to mines operating, or in the development stage, are capitalized as mineral properties and amortized by the unit-of-production method based on estimated recoverable reserves; all other mineral exploration costs are written off to expense as incurred.

Petroleum properties – Petroleum properties are accounted for on the full-cost basis whereby all costs relating to the exploration for and the development of petroleum resources are capitalized whether productive or nonproductive and amortized by the unit-of-production method based on estimated recoverable reserves.

In December, 1977, the Financial Accounting Standards Board in the United States issued Statement of Financial Accounting Standards No. 19 which will require oil- and gas-producing companies to follow a form of successful-efforts method of accounting whereby, in general terms, unsuccessful exploration costs will be charged directly to earnings rather than capitalized and amortized over future periods.

This change in accounting standards will become effective with the Company's 1979 fiscal year and will require a restatement of current and previous years' financial statements. Because of the complexities in determining the amount of the restatement, time has not permitted the Company to quantify in any way the effect of the change on earnings or shareholders' investment.

Plant and equipment – Expenditures for plant and equipment additions, major replacements and improvements are capitalized in the property accounts; the cost of maintenance and repairs is charged to operating expense as incurred.

Depreciation of base-metal and petroleum plant and equipment is charged to operations by the unit-of-production method based on estimated recoverable reserves. Depreciation of other plant and equipment is charged to operations generally on a straight-line basis over their estimated useful lives.

Mine development expenditures – Expenditures on mine development are capitalized and amortized by the unit-of-production method based on estimated recoverable reserves.

Deferred income taxes:

Deferred income taxes represent primarily tax reductions for expenditures on mine development, petroleum and other properties, cost of participation in certain mining companies, and depreciation deducted in the determination of taxable income but not yet charged to earnings.

In addition, income taxes approximating $30,000,000, relative to the gain on disposal of the potash division assets, have been deferred for a period of up to 10 years subject to the reinvestment of the proceeds in Canadian exploration and development expenses (see Note 13).

Indonesian income taxes are determined under contract with the government and generally allow for deduction of all costs incurred, although certain of these costs are capitalized and amortized for financial reporting purposes. Deferred Indonesian income taxes are not provided relative to these timing differences since additional future taxes will be met by increased allocations under the production-sharing contract.

Foreign currency translation:

The financial statements are expressed in Canadian dollars. Foreign currencies have been translated into Canadian dollars as follows: revenue, costs and expenses of foreign subsidiaries at the average rates of exchange for

the period; noncurrent assets (including depreciation, depletion and amortization thereof) and noncurrent liabilities at rates in effect at dates of transactions; current assets and liabilities at rates in effect at the end of the year. Gains and losses on currency translations are included in the statements of earnings.

Statement of Financial Accounting Standards No. 8 (SFAS No. 8), issued by the Financial Accounting Standards Board, requires the translation of long-term debt at current rates of exchange. However, the Company has continued to follow its policy of translating such debt at historical rates, currently a generally accepted accounting practice in Canada. Had long-term debt been translated at current rates as required by SFAS No. 8, the effect on earnings, after minority interest, would have been as shown in the accompanying table:

	1977		1976	
	as reported	at current rate	as reported	at current rate
Earnings (loss) – in thousands:				
Before extra-ordinary items	$ 4,413	$ 575	$ 2,819	$ 4,440
After extra-ordinary items	$56,990	$53,152	$(8,279)	$(6,658)
Per share:				
Before extra-ordinary items	$ 0.44	$ 0.06	$ 0.28	$ 0.44
After extra-ordinary items	$ 5.64	$ 5.26	$ (0.83)	$ (0.67)

2. Change in accounting practice

In prior years, Francana Oil & Gas Ltd. followed the practice of recording Indonesian oil income on a shipment basis. During 1977 the company adopted a different method of accounting whereby revenue with respect to that portion of oil shipments to which it is not yet entitled is deferred until entitlements exceed shipments.

The retroactive effect of this change, after income taxes and minority interest, does not have a significant impact on earnings ($630,000, or $0.06 per share), and therefore has been included in the determination of income for the year ended December 31, 1977, rather than restating the 1976 financial statements.

3. Investments

Details of investments, including advances, are as follows:

	Consolidated		Unconsolidated	
	1977	1976	1977	1976
	(in thousands)			
Associated companies	$ 31,324	$ 46,405	$ 7,511	$ 20,314
Subsidiary companies	—	—	133,151	118,389
Partnerships	14,115	7,814	—	—
Joint venture	—	1,116	—	1,116
Other – at cost:				
Quoted (market value 1977 – $398,000; 1976 – $1,833,000)	1,035	3,132	1,035	3,132
Unquoted	8,950	8,412	8,297	7,889
	55,424	66,879	149,994	150,840
Less provision for future write-offs	12,497	13,349	12,704	13,556
	$ 42,927	$ 53,530	$137,290	$137,284

The underlying equity in the net assets of associated companies comprises the following:

	% of common share ownership		Underlying equity in net assets	
	1977	1976	1977	1976
			(in thousands)	
Whitehorse Copper Mines Ltd.	41.2%	41.2%	$ 4,789	$ 4,749
Lytton Minerals Limited	33.9%	33.9%	142	1,509
Ambay Services Limited	50.0%	50.0%	109	63
Canadian Merrill Ltd. (see facing page)	—	45.5%	—	9,451
Underlying equity in net assets – unconsolidated			5,040	15,772
Inspiration Consolidated Copper Company (an associated company of a wholly-owned subsidiary)	23.4%	22.6%	24,064	26,091
Underlying equity in net assets – consolidated			$ 29,104	$ 41,863

The unamortized excess cost over the underlying equity in the net assets of associated companies at the dates of acquisition on a consolidated basis was $2,220,000 in 1977 and $4,542,000 in 1976, and on an unconsolidated basis was $2,471,000 in 1977 and $4,542,000 in 1976. The unamortized excess cost is included in the investments in associated companies and is being written off against the Company's share of earnings therefrom, generally over a period of 20 years except for an amount of $2,920,000 relative to the Company's investment in Lytton Minerals Limited which was fully provided for in 1976, as explained in Note 13.

The Company's underlying equity in the net assets of its subsidiaries amounts to $122,779,000 at December 31, 1977, and $109,045,000 at December 31, 1976. The unamortized excess cost of investment over equity value amounting to $10,372,000 at December 31, 1977, and $9,344,000 at December 31, 1976, is included in property, plant and equipment.

During 1977, the Company increased its interest in Canadian Merrill Ltd. to 61.9%. As a result, Canadian Merrill Ltd. has been reclassified as a subsidiary, effective January 1, 1977.

The following is a summary of the noncurrent assets and liabilities at January 1, 1977, the effective date of acquisition:

	(in thousands)
Property, plant and equipment less accumulated depreciation and depletion	$32,384
Other assets	797
Noncurrent liabilities including minority interest	(18,624)
	14,557
Investment at January 1, 1977 (including equity in earnings)	11,662
Working capital deficiency at effective date of acquisition	$ 2,895

The excess of cost of the investment over the underlying equity in the net assets at the effective date of acquisition of $2,211,000 has been ascribed to property, plant and equipment and is being amortized against earnings on a straight-line basis over a period of 20 years.

The investment in partnerships represents Terra Chemicals International, Inc.'s 25% interest in an ammonia production facility and 65% interest in a nitrogen product upgrading facility. The investment at December 31, 1977, of $14,115,000 consists principally of Terra's equity contributions, advances and deferred preoperating costs, reduced by the company's share of operating losses to date.

In January 1977, the Company disposed of its one-sixth interest in the Whitehorse Copper Mines Ltd. joint venture for $1,325,000 cash. Previously, in December, 1976, the Company acquired an additional 20.6% interest in Whitehorse Copper Mines Ltd. for $1,361,000 cash.

During 1976, the Company sold its entire investment in Western Decalta Petroleum Limited for approximately $37,846,000 cash.

The Company makes provision in amounts which it considers prudent for future write-offs of investments which may be unprofitable.

4. Property, plant and equipment

The following is a summary of property, plant and equipment at cost by major category:

	Consolidated		Unconsolidated	
	1977	1976	1977	1976
	(in thousands)			
Base metals	$146,622	$133,828	$128,438	$117,032
Fertilizers & chemicals:				
Potash division	—	56,979	—	56,979
Other	69,415	60,589	—	—
Petroleum	158,293	98,937	—	—
Industrial	17,511	15,325	—	—
	391,841	365,658	128,438	174,011
Less accumulated depreciation and depletion	169,120	161,733	73,136	86,242
	222,721	203,925	55,302	87,769
Unamortized mine development expenditures	36,241	42,938	36,011	42,826
	$258,962	$246,863	$ 91,313	$130,595

Details of the sale in 1977 of the potash division assets and the write-down in 1976 of the petroleum investments in Indonesia are set out in Note 13.

5. Accounts and notes payable

This item comprises the following:

	Consolidated		Unconsolidated	
	1977	1976	1977	1976
	(in thousands)			
Bank loan	$ 1,570	$ —	$ —	$ —
Notes payable	—	6,000	—	6,000
Accounts payable	63,217	41,354	22,496	21,740
Loans from subsidiaries	—	—	5,329	4,832
Loans from associated companies	—	207	—	—
	$64,787	$47,561	$27,825	$32,572

The Company and its major subsidiaries have lines of credit aggregating approximately $50,000,000 with Canadian and United States banks with interest at prime rates. In addition, the Company had a standby line of credit of $25,000,000 to support its commercial paper operation with a standby fee of ½ of 1% of the amount of the line. This line of credit was cancelled in 1976.

The notes payable outstanding at December 31, 1976, were for terms of between 6 and 190 days and had a weighted average interest rate of approximately 9.2%. The maximum amount of short-term borrowings outstanding during 1977 and 1976 was $10,186,000 and $36,732,000, respectively, and the approximate average amount outstanding during each year was $5,000,000 and $17,300,000 with weighted average interest rates of 8.9% and 9.3%.

6. Long-term debt

Details of the long-term debt are as follows:

	Consolidated 1977	Consolidated 1976	Unconsolidated 1977	Unconsolidated 1976
	(in thousands)			
Hudson Bay Mining and Smelting Co., Limited:				
9% unsecured debentures due 1991	$ 23,115	$ 23,115	$ 23,115	$ 23,115
10½% unsecured debentures due 1995 (U.S. $50,000,000)	50,764	50,764	50,764	50,764
9% unsecured note (U.S. $4,800,000)	—	4,936	—	4,936
Francana Oil & Gas Ltd.:				
Secured bank production loan	—	2,202	—	—
Unsecured note (U.S. $1,333,000)	—	1,308	—	—
Canadian Merrill Ltd.:				
Secured bank production loans	15,248	—	—	—
Gas pipeline advances (U.S. $692,000)	736	—	—	—
Other (U.S. $195,000)	195	—	—	—
Terra Chemicals International, Inc.:				
9⅝% unsecured notes (1977 – U.S. $17,500,000; 1976 – U.S.$9,000,000)	17,760	9,082	—	—
Unsecured bank term loan (U.S. $4,000,000)	4,100	4,100	—	—
8% secured note (U.S. $900,000)	997	—	—	—
Other (1977 – U.S. $294,000; 1976 – U.S. $256,000)	292	251	—	—
	113,207	95,758	73,879	78,815
Current portion due within one year included in current liabilities	2,213	2,542	—	1,234
	$110,994	$ 93,216	$ 73,879	$ 77,581

(a) Under the trust indenture covering the 9% unsecured debentures, sinking fund payments sufficient to retire $800,000 of principal amount are required each year until 1990. The Company has the option to redeem the debentures at prices ranging downward from 105.70% currently to 100% in 1988 and thereafter. Debentures redeemed through the operations of the sinking fund are callable at par. Debentures amounting to $1,885,000 (principal amount) have been purchased by the Company and cancelled. Therefore, no sinking fund payment was required in 1977 and $1,085,000 is available for application against future sinking fund requirements.

(b) Under the trust indenture covering the 10½% unsecured debentures, sinking fund payments sufficient to retire U.S. $3,330,000 of principal amount each year from 1981 to 1994, inclusive, are required. The Company has the option to redeem the debentures at prices ranging downward from 109.1% currently to 100% in 1990 and thereafter. Debentures redeemed through the operations of the sinking fund are callable at par.

(c) The 9% unsecured note was repayable in four annual instalments of U.S. $1,200,000 but was repaid in full during 1977.

(d) The bank production loan of Francana Oil & Gas Ltd. was repayable in principal instalments of $35,700 per month commencing in March, 1978, but was repaid in full during 1977. The loan was secured by an assignment of interests in certain producing properties and bore interest at approximately bank prime rate.

(e) The unsecured note payable of Francana Oil & Gas Ltd. was interest-free and was repaid during 1977.

(f) The bank production loans of Canadian Merrill Ltd. include $6,906,000 payable in United States currency (U.S. $6,583,000) and are repayable in monthly instalments of $22,000 until December, 1981, and $200,000 thereafter. The loans are secured primarily by an assignment of interests in certain producing properties and bear interest, with minor exceptions, at rates not exceeding ¾ of 1% above bank prime rate.

(g) The gas pipeline advances of Canadian Merrill Ltd. are interest-free and due monthly to 1981.

(h) The 9⅝% unsecured notes of Terra Chemicals International, Inc. are repayable in equal annual instalments of U.S. $1,000,000 from 1980 to 1995, with the balance due in 1996.

(i) The unsecured bank term loan of Terra Chemicals International, Inc. is repayable in equal semiannual instalments of U.S. $667,000 commencing in 1978 and bears interest at ½ of 1% above the bank prime rate.

(j) The 8% secured note of Terra Chemicals International, Inc. is repayable in equal annual instalments of U.S. $180,000 commencing in 1978.

Terra Chemicals International, Inc. expects to borrow U.S. $15,000,000 evidenced by 8¾% unsecured notes under terms of an agreement entered into in December, 1977. The notes will be due in equal annual instalments from 1984 to 1998.

Interest and related expenses on long-term debt were:

	1977	1976
	(in thousands)	
Hudson Bay Mining and Smelting Co., Limited	$ 7,820	$7,868
Consolidated subsidiaries	3,117	315
	$10,937	$8,183

After allowing for prepayments, sinking fund and principal payments required over the next five years are as follows:

	Consolidated		Unconsolidated	
	Canadian funds	U.S. funds	Canadian funds	U.S. funds
	(in thousands)			
1978	$ —	$2,142	$ —	$ —
1979	515	2,096	515	—
1980	800	3,022	800	—
1981	800	4,797	800	3,300
1982	2,190	5,473	800	3,330

7. Commitments and contingent liabilities

During 1973, an action was brought alleging infringement by the Company with respect to certain patents relating to the processing of potash. In the opinion of the Company and its counsel, the patents are not infringed and accordingly the Company has a good defence to the action on its merits.

The Company is contingently liable as guarantor for the indebtedness of an associated company in the amount of $596,000 at December 31, 1977 ($730,000 at December 31, 1976).

A subsidiary, Terra Chemicals International, Inc., is contingently liable for discounted notes subject to recourse aggregating U.S. $4,132,000 at December 31, 1977 (U.S. $2,950,000 at December 31, 1976) and is a 25% guarantor of $90,000,000 of first mortgage notes payable of the ammonia production facility partnership referred to in Note 3.

In addition, Terra is committed to various noncancelable leases expiring at various dates through 1989 and requiring aggregate minimum rental payments as follows:

Year ending December 31:	
1978	U.S. $1,561,000
1979	1,272,000
1980	1,096,000
1981	908,000
1982	739,000
1983 and thereafter	4,084,000
	U.S. $9,660,000

Total rental expense under all leases, including short-term cancelable leases, was approximately U.S. $1,258,000 and $972,000 for 1977 and 1976 respectively.

8. Capital stock

The authorized capital of the Company comprises 15,000,000 Class "A" and 15,000,000 Class "B" convertible common shares without par value.

The Class "A" and Class "B" shares are freely interconvertible at any time, on a one-for-one basis, at the option of the shareholder and rank equally in all respects, except that it is the Company's intention to pay tax-deferred dividends to the Class "B" shareholders out of 1971 capital surplus, as defined in the Canadian Income Tax Act. For Canadian income tax purposes, tax-deferred dividends are not taxable when received by the shareholder, but reduce the adjusted cost base of his shares for capital-gains determination. This option expires at December 31, 1978, after which all dividends will be treated in the same manner as Class "A" dividends.

As at December 31, 1977 and 1976, there were issued and fully paid 10,101,739 shares consisting of:

	1977	1976
Class "A" shares	5,177,609	5,085,247
Class "B" shares	4,924,130	5,016,492
	10,101,739	10,101,739

During 1976, 1,475 shares were issued for $28,984 cash under the Company's share-option plan (Note 9). In addition, 158,606 shares were issued in exchange for 261,234 shares of Canadian Merrill Ltd., most of which were held by a senior officer of the Company. This share exchange, valued at $2,775,605, was based on the closing price of each stock on The Toronto Stock Exchange on September 1, 1976. No shares were issued during 1977.

9. Share-option plans

Under the Company's 1968 and 1973 Share Option Plans for full-time officers and key employees, 368,000 unissued shares were reserved for granting of options at prices not less than 95% of the market value (full market value in the case of United States citizens) on the day the option is granted.

No options were granted during 1977 or 1976. Options on 1,475 shares were exercised during 1976 at $19.65 per share (no options were exercised in 1977). Options on 12,260 shares terminated in 1977 (1976 – 3,510 shares) and options on 53,605 shares expired on December 13, 1977.

As of December 31, 1977, 290,700 shares were available for future grants, to be reduced to 200,000 shares on April 25, 1978, the expiry date of the 1968 Plan.

10. Earnings per share

Earnings per share are calculated on the weighted average number of shares outstanding (10,101,739 for 1977 and 9,996,002 for 1976).

11. Interest and other income

This amount comprises the following:

	Consolidated		Unconsolidated	
	1977	1976	1977	1976
	(in thousands)			
Interest income	$10,403	$2,960	$7,569	$1,859
Share of earnings of joint venture	—	503	—	503
Unrealized exchange gains on translation of subsidiaries' accounts	4,861	—	—	—
Miscellanous income	3,626	368	1,813	—
	$18,890	$3,831	$9,382	$2,362

12. Income taxes

Income tax expense comprises the following:

	Consolidated		Unconsolidated	
	1977	1976	1977	1976
	(in thousands)			
Current taxes	$16,284	$32,895	$(4,906)	$(1,624)
Deferred taxes	10,386	3,599	3,832	1,475
	$26,670	$36,494	$(1,074)	$ (149)

The reconciliation between the combined statutory income tax rates and the effective income tax rate is as follows:

	Consolidated		Unconsolidated	
	1977	1976	1977	1976
Combined statutory income tax rates	48.0%	48.0%	(50.0)%	49.5 %
Inventory allowance	(0.7)	—	(54.7)	—
Tax credits, rebates and allowances	(11.2)	(7.2)	(39.2)	(39.5)
Prior years' adjustments	(0.1)	(0.4)	(9.9)	(3.7)
Difference between Canadian and foreign tax rates	10.5	15.3	—	—
Nontaxable and nondeductible items	(5.4)	10.9	25.2	(9.1)
Effective income tax (recovery) rate	41.1 %	66.6 %	(128.6)%	(2.8)%

13. Extraordinary items

Extraordinary items consist of the following:

	1977	1976
	(in thousands)	
Gain on sale of potash division assets, less estimated income taxes	$53,121	$ —
Write-down of investment in Indonesia, less minority interest......	—	(10,806)
Provision for possible decline in value of investment in Lytton Minerals Limited, less applicable income taxes..................	—	(3,327)
Gain (loss) on disposal of investments, less income taxes........	(544)	3,035
	$52,577	$(11,098)

(a) In April 1977, the Company sold all of the assets, other than working capital, of its Sylvite of Canada potash division for a net cash consideration of $143,164,000. The sale resulted in an extraordinary gain, after income taxes, of $53,121,000 as follows (in thousands):

Net proceeds....................		$143,164
Book value of assets sold.........		56,243
		86,921
Estimated income taxes:		
Current........................	$ 2,400	
Deferred......................	31,400	33,800
		$53,121

(b) The Company, through a subsidiary of Francana Oil & Gas Ltd., is the operator for, and has a significant interest in, a joint venture involved in petroleum exploration, development and production in Indonesia. The crude oil production is shared under the terms of a production-sharing contract with Pertamina (the national oil company of Indonesia).

Because of changed economics resulting from contract amendments and certain production problems, the Company reassessed its interest in Indonesia and in 1976 wrote off the unamortized excess of the cost of its investment over its equity in the underlying net assets. The resulting extraordinary charge to earnings, after minority interest amounted to $10,806,000.

(c) The Company, through its investment in Lytton Minerals Limited, has an interest in certain mining properties in Mexico. After consideration of a feasibility study undertaken to reassess the economics of the project, Lytton Minerals has decided not to participate in the development of the project because of an indicated unsatisfactory return on capital.

As a result, full provision was made in 1976 for possible decline in value of the investment in Lytton Minerals Limited.

14. Retirement plans

The Company and its subsidiaries maintain noncontributory retirement plans which cover substantially all salaried and hourly paid employees.

Total cost of the plans approximated $5,556,000 in 1977 and $2,867,000 in 1976, including past-service costs of $4,285,000 and $1,026,000 in the respective years.

The unfunded past-service costs with respect to all the plans were approximately $14,000,000 as at December 31, 1977 (1976 – $16,000,000), including unfunded vested benefits of approximately $10,000,000 (1976 – $11,000,000) and must be funded over a period not exceeding 14 years.

15. Remuneration of directors and officers

As at December 31, 1977, the Company had 12 directors and 17 officers (19 officers in 1976); three of the officers are also directors. The aggregate remuneration paid to the directors and officers, as such, was as follows:

	1977	1976
Directors	$ 67,000	$ 60,000
Officers	1,160,000	1,247,000

16. Anti-inflation legislation

Certain of the Company's operations in Canada are subject to the Anti-Inflation Act which provides for the restraint of profit margins, prices, dividends and compensation.

Under the present legislation, the Company is not permitted to pay dividends in excess of $1.83 per share in the 12 months ending October 13, 1978.

17. Business segment reporting (unaudited)

Included in the supplementary financial information set out elsewhere in the annual report are unaudited financial data for 1977 pertaining to the business segments of the

Company as required by Statement of Financial Accounting Standards No. 14 issued by the Financial Accounting Standards Board. This information replaces the lines of business data shown for previous years.

18. Current replacement cost information (unaudited)

The Company, like other companies and individuals, is affected by inflation. Its most direct effect is to increase the Company's costs of operations. The Company establishes the sales prices of its products primarily on the basis of competitive market conditions, rather than directly on costs incurred and as a result has not been able to maintain a gross margin percentage in line with levels experienced in prior years. Consequently, the impact on the Company's earnings of increased costs arising from inflation is not readily determinable.

In addition, replacing items of plant and equipment with assets having equivalent productive capacity would require a substantially greater capital investment than was originally required for the existing assets.

The Securities and Exchange Commission of the United States now requires certain registered companies to include in their annual Form 10-K filing certain information concerning the estimated replacement cost of their productive facilities and inventories, and concerning depreciation and cost of products sold computed on the basis of such replacement cost.

This quantitative information with respect to the estimated replacement cost of inventories and plant and equipment at December 31, 1977, and the related estimated effect of such costs on cost of sales and depreciation expense for the year, has been included in the Company's Form 10-K (a copy of which is available on request).

19. Quarterly financial data (unaudited)

Summarized quarterly financial data (in thousands of dollars except for per-share amounts) for 1977 and 1976 is as follows:

	Three months ended			
	March 31	June 30	Sept. 30	Dec. 31
1977				
Net sales	$ 72,744	$122,328	$ 66,542	$ 84,732
Earnings before taxes and royalties	$ 14,851	$ 27,210	$ 5,692	$ 17,098
Earnings (loss) before extraordinary items	$ (274)	$ 7,670	$ (2,384)	$ (599)
Net earnings (loss)	$ (274)	$ 60,025	$ (2,384)	$ (377)
Earnings (loss) per share:				
Before extraordinary items	$ (0.03)	$ 0.76	$ (0.23)	$ (0.06)
After extraordinary items	$ (0.03)	$ 5.94	$ (0.23)	$ (0.04)
1976				
Net sales	$ 66,197	$123,688	$ 77,576	$ 76,186
Earnings before taxes and royalties	$ 10,206	$ 25,559	$ 8,615	$ 9,425
Earnings (loss) before extraordinary items	$ (347)	$ 5,251	$ (1,644)	$ (441)
Net earnings (loss)	$ (347)	$ 5,251	$ (1,644)	$ (11,539)
Earnings (loss) per share:				
Before extraordinary items	$ (0.03)	$ 0.52	$ (0.16)	$ (0.05)
After extraordinary items	$ (0.03)	$ 0.52	$ (0.16)	$ (1.16)

The amendments to the Indonesian production-sharing contract and the reassessment of the Indonesia interest in 1976 referred to in Note 13 resulted in a special payment being made to the Indonesian government and increased depletion and depreciation charges in that year. As these items were applicable to the entire year but recorded in the last half, the 1976 results above have been restated to allocate these adjustments to the proper quarters.

Auditors' report

To the Shareholders of
Hudson Bay Mining and Smelting Co., Limited:

We have examined the consolidated and unconsolidated statements of financial position of Hudson Bay Mining and Smelting Co., Limited and subsidiary companies as at December 31, 1977 and 1976, and the consolidated and unconsolidated statements of earnings, retained earnings and of changes in financial position for the years then ended. Our examination was made in accordance with generally accepted auditing standards in Canada, and accordingly included such tests and other procedures as we considered necessary in the circumstances. We did not examine financial statements of a subsidiary or of certain investments which have been accounted for using the equity method of accounting. The earnings from these entities comprised 3% of the net earnings in 1977 and reduced the loss by 47% in 1976; the sales of the subsidiary comprised 33% and 26% of the consolidated sales, and its assets comprised 17% and 19% of the consolidated assets for the years 1977 and 1976, respectively. The financial statements with respect to the aforementioned subsidiary and investments were reported upon by other auditors and our opinion, insofar as it relates to the amounts included for such entities, is based solely upon reports of the other auditors.

In our opinion, based upon our examination and the reports of other auditors, these consolidated and unconsolidated financial statements present fairly the financial position of the company as at December 31, 1977 and 1976, and the results of its operations and the changes in its financial position for the years then ended in accordance with generally accepted accounting principles in Canada applied on a consistent basis.

Toronto, Canada
February 17, 1978

Deloitte, Haskins & Sells
Chartered Accountants

Financial review and management's discussion and analysis of the statements of earnings

The format of the financial statement presentation has been changed this year to include unconsolidated financial statements together with the usual consolidated accounts. Management feels that this information, which is available in the Company's annual Form 10-K filing with the Securities and Exchange Commission of the United States, will be helpful to shareholders' understanding of the financial position and results of the Company.

As the significant changes affecting the unconsolidated results are either self-explanatory or discussed in the following analysis of the consolidated accounts, no specific discussion or analysis is made of the unconsolidated results included in the Statements of Earnings.

Earnings for 1977 before extraordinary earnings of $52,577,000 amounted to $4,413,000, compared with earnings in 1976 of $2,819,000 before extraordinary charges of $11,098,000. The extraordinary items are detailed in Note 13 to the Financial Statements.

The increase in earnings is attributable largely to the petroleum division, in particular Trend International Limited, as well as to increased interest income earned on the proceeds of the sale of the potash division and unrealized exchange gains upon the translation to Canadian dollars of the accounts of United States subsidiaries. These favorable factors were in part offset by continued depressed metal markets, higher operating costs

1977 operations by segment (in thousands)	Base metals	Fertilizers and chemicals	Oil and gas	Industrial	Corporate	Adjustments and eliminations	Consolidated
Revenue							
Canadian operations							
Domestic	$ 56,827	$ 5,124	$ 17,659	$ 9,280	$ —	$ —	$ 88,890
Export – United States	20,619	3,942	—	12,464	—	—	37,025
Export – Europe	54,173	—	—	—	—	—	54,173
Foreign operations							
United States	—	106,850	2,206	—	—	—	109,056
Southeast Asia	—	—	57,202	—	—	—	57,202
Sales to unaffiliated customers	131,619	115,916	77,067	21,744	—	—	346,346
Intersegment sales – within Canada	7,672	—	—	—	—	(7,672)	—
Interest income							
Domestic	87	—	127	12	7,514	—	7,740
United States/Europe	—	2,007	656	—	—	—	2,663
Other income	—	—	—	—	—	8,487	8,487
Total revenue	$139,378	$117,923	$ 77,850	$ 21,756	$ 7,514	$ 815	$365,236
Operating profit							
Domestic	$ 2,398	$ 7,732	$ 15,279	$ 978	$ 7,514		$ 33,901
United States	—	17,609	519	—	—		18,128
Southeast Asia	—	—	31,784	—	—		31,784
	$ 2,398	$ 25,341	$ 47,582	$ 978	$ 7,514		83,813
Other corporate revenue							279
General corporate expenses							(7,200)
Interest expense							(12,041)
Earnings before taxes							$ 64,851
Identifiable assets							
Canada	$163,237	$ 161	$ 83,218	$ 18,619	$136,076		$401,311
United States	23,813	134,789	25,844	—	—		184,446
Southeast Asia	—	—	32,979	—	—		32,979
Total identifiable assets	$187,050	$134,950	$142,041	$ 18,619	$136,076		$618,736
Depreciation, depletion and amortization expense	$ 12,706	$ 5,863	$ 11,530	$ 1,017	$ 117		$ 31,233
Capital expenditures	$ 26,900	$ 9,743	$ 25,421	$ 2,494	$ 213		$ 64,771

and the major loss incurred by an associated company, Inspiration Consolidated Copper Company.

Dividends declared during 1977 totalled $6,061,000, or 60¢ a share, compared with $8,018,000, or 80¢ a share, in 1976.

Working capital increased by $129,780,000 during 1977, from $85,758,000 at the end of 1976 to $215,538,000 at the end of 1977. This is primarily due to the sale of the potash division assets.

Significant increases in sales and expenses which occurred in 1976 and 1975 are largely due to the consolidation of Terra Chemicals International, Inc. accounts, commencing on July 1, 1975. Prior to that date, the Company's interest in the earnings of Terra was accounted for by the equity method and therefore figures for the equity earnings of associated companies in both years have been affected accordingly.

Similarly, the accounts of Canadian Merrill Ltd. are consolidated for the first time as of January 1, 1977. The Company's interest in earnings of prior years is included in equity earnings of associated companies, which have been affected by this change in 1977.

Details of significant changes outlined below exclude the effect of both the Terra and the Canadian Merrill consolidations.

The consolidated accounts include the accounts of the Company and all its subsidiary companies which, by definition, are companies more than 50%-owned. Accounting practice requires inclusion of the accounts of subsidiaries of a subsidiary, which can have the effect of creating minority interests in consolidated earnings in excess of 50% of such earnings. This in fact happened in 1977 when earnings from subsidiaries amounting to $28,937,000 had minority interests of $16,677,000, or

Supplementary consolidated financial information
(In thousands except per-share data)

	1977	1976	1975	1974	1973
Summary of operations					
Net sales	$346,346	$343,647	$259,634	$217,210	$162,572
Equity earnings (losses)	(2,620)	2,224	4,285	9,129	1,566
Other income	18,890	3,831	4,112	5,529	5,360
	362,616	349,702	268,031	231,868	169,498
Cost and expenses	300,385	292,670	202,556	148,118	112,019
Taxes and royalties	40,637	49,204	36,625	33,939	14,184
Other deductions	17,181	5,009	14,079	4,843	2,402
	358,203	346,883	253,260	186,900	128,605
Earnings before extraordinary items	4,413	2,819	14,771	44,968	40,893
Extraordinary items (Note 13)	52,577	(11,098)	—	—	2,704
Net earnings (loss)	$ 56,990	$ (8,279)	$ 14,771	$ 44,968	$ 43,597
Other financial data					
Capital expenditures	$ 64,771	$ 46,762	$ 47,199	$ 43,639	$ 18,177
Investment expenditures	8,411	17,254	26,022	86,940	41,137
Working capital	215,538	85,758	58,706	19,728	42,862
Total assets	618,736	476,289	517,770	402,691	299,076
Capital employed	536,624	405,676	445,782	343,635	242,120
Shareholders' investment	254,755	203,826	217,318	216,465	187,398
Dividends	6,061	8,018	13,918	15,907	19,253
Earnings (loss) per share	5.64	(.83)	1.49	4.52	4.67
Dividends per share	.60	.80	1.40	1.60	2.00
Lines of business information	See Note 17 to the Financial Statements				
Net sales:					
Base metals		$146,251	$125,631	$156,032	$123,056
Fertilizers and chemicals		123,922	70,591	33,782	20,132
Oil and gas		61,589	55,172	18,423	4,006
Industrial		11,885	8,240	8,973	15,378
		$343,647	$259,634	$217,210	$162,572
Earnings (loss) before taxes, minority interest and extraordinary items:					
Base metals		$ (8,662)	$ (1,189)	$ 42,141	$ 46,220
Fertilizers and chemicals		34,110	30,361	25,889	8,449
Oil and gas		29,922	33,843	14,252	621
Industrial		659	275	928	339
		$ 56,029	$ 63,290	$ 83,210	$ 55,629

58%. This anomaly occurred because of the significance of the earnings of Trend International Limited, a 56.8%-owned subsidiary of Francana Oil & Gas Ltd., which, in turn, is 54.9%-owned by the Company.

A major disposal was made during 1977 with the sale of the assets of the Sylvite of Canada potash division for a net cash consideration of $143,164,000. Details are set out in Note 13 to the Financial Statements. In 1976, the Company sold its entire investment in Western Decalta Petroleum Limited for approximately $37,846,000.

Capital expenditures during 1977 totalled $64,771,000, an increase of approximately $18,000,000 from 1976. A total of $25,000,000 was spent by the petroleum operations and approximately $27,000,000 was spent by the Canadian Metals Division in the Flin Flon-Snow Lake area on a new concentrator near Snow Lake, additional metallurgical plant upgrading in Flin Flon and on continued underground mine development. Capital expenditures in the fertilizer and chemical operations approximated $10,000,000 and in the industrial operations, $2,500,000.

Net sales from the Flin Flon operation increased during 1976 as a direct result of increased copper and zinc deliveries. However, zinc deliveries decreased substantially in 1977 resulting in an increase in zinc inventory during the year of approximately 18,000 tons. Sales of potash terminated during 1977 with the sale of the potash division.

Interest expense increased substantially during 1976, chiefly because of increased borrowings required to finance major investments and capital expenditures.

Cost of sales continued to increase in all areas, primarily because of higher labor and material costs.

Increased interest income was directly attributable to the cash proceeds from the sale of the potash division assets.

Mining taxes and royalties increased in 1976 due to increased provincial taxes on potash operating profits. Such taxes ceased upon the sale of the potash division in 1977.

Income taxes were reduced in 1977 by a substantial investment tax credit in Terra Chemicals.

Equity earnings in associated companies were affected by the large loss incurred in 1977 by Inspiration Consolidated Copper Company.

Dividends and market price ranges, by quarters

			Market Range							
			Toronto Stock Exchange (Principal market, Cdn. $)				New York Stock Exchange (U.S. $)			
	Dividends		High	Low	High	Low	High	Low	High	Low
1977	A	B	—A—		—B—		—A—		—B—	
1st	20¢	20¢	19⅞	18	19	18⅜	19¼	17¾	18¾	17¾
2nd	20¢	20¢	19½	15½	18⅞	15¾	18¾	14¼	18¼	16⅛
3rd	20¢	20¢	18¼	14	16⅝	15⅛	16½	15	16¼	14¾
4th	—	—	17⅞	13¾	16⅜	15	16	12½	15⅜	12½
1976										
1st	20¢	20¢	22	15⅛	21⅝	15⅜	22¼	14⅞	22	14⅞
2nd	20¢	20¢	22	18⅝	21⅜	19	22⅜	19	22	19
3rd	20¢	20¢	19¾	17⅜	19¼	17½	20⅛	17	20	18⅛
4th	20¢	20¢	19⅜	13½	16½	13⅞	19	14	19	14⅞

Review of Operations

Canadian Metals Division

Formed in June, 1976, to rationalize mining, metallurgical and marketing operations in Canada, the Canadian Metals Division is responsible for mining and metallurgy in the Flin Flon – Snow Lake area, metal sales and purchases of concentrates, the transportation of all raw materials and finished products, and the Company's interest in Whitehorse Copper Mines Ltd. The Division was further strengthened during 1977 by the addition of financial, administrative and transportation support staff.

Flin Flon – Snow Lake operations

There were no major stoppages during 1977 and production of ore totalled 1,822,001 tons, 258,563 tons more than in 1976. Ore grades, however, were lower.

Production of metals from all sources was as follows (1976 figures in brackets): refined copper – 135,363,453 lbs. (122,550,033); slab zinc – 151,820,011 lbs. (120,859,908); cadmium – 219,373 lbs. (282,995); selenium – 135,350 lbs. (120,194); gold – 74,393 ozs. (65,734); silver – 1,322,039 ozs. (1,220,853); and lead – 915,188 lbs. (695,480).

Mining – Flin Flon area

	ore production/average assays				
mine	tons	Au oz./ton	Ag oz./ton	Cu %	Zn %
Flin Flon	647,699	0.042	0.69	1.60	2.23
Centennial	166,214	0.027	0.50	1.57	2.44
White Lake	12,167	0.028	0.56	1.93	3.17
Westarm	82,488	0.031	0.42	3.45	1.44
Total for 1977	908,568	0.038	0.63	1.77	2.21
Total for 1976	880,889	0.03	0.7	1.7	2.4

The Flin Flon Mine continues to be the main source of ore in the Flin Flon area although production is mainly from pillars and remnants. Production was reduced during the year so that ore from Centennial and Westarm mines could be processed in the metallurgical plant. Of the 647,699 tons mined at Flin Flon (748,672 tons in 1976), 236,748 tons came from areas not previously included in the ore reserves.

Centennial Mine was brought into full production at midyear and has met expectations. Initial production was from conventional long-hole stopes but experiments with vertical crater retreat stoping proved successful and will be used for subsequent production. White Lake Mine, under development throughout the year, is expected to be in production again early in 1978. Westarm Mine began production early in January, 1978, and development work to date has confirmed ore grades indicated by diamond-drilling.

A convoy of ore trucks leaving Westarm Mine for Flin Flon

Mining – Snow Lake area

	ore production/average assays				
mine	tons	Au oz./ton	Ag oz./ton	Cu %	Zn %
Stall Lake	263,646	0.026	0.21	4.36	0.18
Osborne Lake	240,703	0.025	0.21	2.49	2.00
Anderson Lake	137,151	0.027	0.23	2.88	0.18
Chisel Lake	242,248	0.050	1.17	0.74	9.24
Ghost Lake	29,685	0.056	1.11	1.47	9.72
Total for 1977	913,433	0.033	0.5	2.59	3.37
Total for 1976	681,549	0.03	0.5	2.9	3.0

Stall Lake Mine's ore production increased gradually and was maintained at 22,000 tons per month during the latter part of the year. Installation of a crusher and other modifications are planned for the production shaft in 1978. Diamond-drilling below the 3600-foot level indicates additional ore to the 4600-foot level and plans are underway to develop this ore in 1978, probably from an internal shaft.

Chisel Lake Mine produced as scheduled, mainly from pillars. An additional fill program was started to aid in pillar recovery and to fill areas below the proposed open pit. Engineering for the open pit is being continued and some preliminary surface work has been done. Exploratory work on the 1450-foot level has indicated some new ore and exploration is being continued.

Ghost Lake Mine produced intermittently and development work was carried out on the Lost Lake zone. This zone is to be developed from a decline and a drive has been started on the 650-foot level at Chisel Lake to handle the Lost Lake ore.

Anderson Lake Mine was shut down in February, 1978, to permit the shaft to be deepened by 434 feet. A crusher will be installed below the bottom (3000-foot) level.

Ore reserves

Proven reserves of copper-zinc ore in the Company's mines in the Flin Flon – Snow Lake area at year-end totalled 17,511,100 tons, assaying gold, 0.036 ozs. per ton; silver, 0.53 ozs. per ton; copper, 2.75%; zinc, 2.7%. The new calculation included average waste dilution of 18% and average estimated recovery of 91% of diluted tonnage. Ore reserves at year-end 1976 totalled 17,535,800 tons.

Metallurgical operations

Concentrator. The tonnage of ore treated and average assays were as follows:

	1977	1976
tons of ore treated	1,821,598	1,562,655
average tons per operating day (five days per week)	7,229	6,276
Au – oz./ton	0.04	0.04
Ag – oz./ton	0.6	0.6
Cu – %	2.2	2.3
Zn – %	2.8	2.7
Pb – %	0.2	0.2

The following concentrates were produced:

concentrates	tons	Au oz./ton	Ag oz./ton	Cu %	Zn %	Pb %
		assays				
copper	202,765	0.19	2.9	18.13	2.9	0.4
zinc	70,288	0.08	1.9	0.77	47.8	1.1
lead	745	0.75	33.4	0.79	4.4	61.4

Zinc refinery. The tonnages and assays of materials treated were as follows:

	tons	Au oz./ton	Ag oz./ton	Cu %	Zn %
		assays			
HBM&S concentrates	71,292	0.079	1.862	.773	47.808
purchased concentrates	85,929	—	.951	1.020	51.394
oxides	36,002	0.014	.747	.555	64.591

Production of sulphide residue for further treatment in the smelter totalled 56,559 tons; 9,708 tons of oxide residue were produced and stockpiled.

The amounts of refined zinc and cadmium produced for the Company's account were as follows:

	Zn/lbs.	Cd/lbs.
from HBM&S feed	64,685,621	74,317
from purchased concentrates	87,134,380	145,041
Total	151,820,001	219,398

Despite a reduction in the rate of production during the year because of weak markets, the inventory of zinc at year-end totalled 27,528 tons, compared with 9,185 tons at the end of 1976.

Copper smelter. Production of anode copper totalled 69,273 tons (61,275 tons in 1976). The improved performance was the result of continuous operation – the furnace rebricking cycle has been extended to 18 months from the traditional 12-month interval – and increased daily throughput. Locally made water-cooled copper dampers were installed in the furnace uptakes, restricting the flow of hot gases from the furnace and reducing oil consumption by 9%, compared with usage in 1976. The holding furnaces in the zinc fuming operation, which had been shut down since 1974, were put back in operation in late 1977 to increase recoveries of zinc and copper.

Tonnage and assays of materials treated were as follows:

	tons	Au oz./ton	Ag oz./ton	Cu %	Zn %
		assays			
HBM&S concentrates	203,947	0.185	2.870	18.103	2.862
residues	70,809	0.100	3.500	1.292	26.259
purchased concentrates	120,121	0.289	4.776	29.249	2.807

Tonnage and metal content of anode copper produced for the Company's account and for shipment to the refinery were as follows:

	tons	Au/oz.	Ag/oz.	Cu/lbs.	Se/lbs.
from HBM&S feed	34,355	43,356	716,009	68,376,986	135,350
from purchased concentrates	34,918	34,187	632,909	69,499,420	—
Total	69,273	77,543	1,348,918	137,876,406	135,350

Stack dust recovered from the smelter baghouse totalled 5,908 tons, assaying 28.5% zinc, 3.28% copper, 16.96% lead and 1.15% cadmium. Slag treated in the fuming furnaces totalled 358,776 tons, yielding 30,063 tons of oxide fume containing 43,098,912 lbs. of zinc.

Environmental control

The new $2-million ventilation system in the zinc tankhouse, which reduces the level of sulphate mist, reflects the Company's ongoing efforts to improve the environment in working areas throughout the plant. In addition, anti-pollution installations that have been functioning for some time, such as the 825-foot concrete stack that serves the copper smelter and zinc refinery, are monitored constantly to ensure that results are within federal and provincial regulations. Further, considerable effort was made during the planning of the concentrator near Snow Lake to satisfy both existing environmental regulations and local residents.

Major projects

Construction of a 3800-ton concentrator adjacent to Stall Lake Mine began on July 4. Construction was on schedule at year-end and startup is planned for November, 1978. The design provides for two separate treatment circuits: one for ore from Chisel and Ghost Lake mines; the other one for ore from Stall, Anderson and Osborne Lake mines. Copper and zinc concentrates will be shipped to the metallurgical plants at Flin Flon along with a lead concentrate which will be sold direct to a lead smelter. Mill tailings produced will provide sufficient backfill – approximately 250,000 tons annually – to meet the requirements of Snow Lake mines.

Industrial relations

The new three-year collective agreement was approved, as negotiated, by the Anti-Inflation Board. A shortage of experienced personnel, especially those with mining skills, and a high turnover of workers continued throughout the year – 986 employees were hired but 999 left to seek employment elsewhere. The comparable figures for 1976 were 1,006 and 1,091. Recruiting programs were again conducted in southern Manitoba, Ontario and the Maritimes. In an effort to attract more married personnel to Snow Lake, the Company continued its policy of building single-family houses; 20 houses were built during 1977 which increased to 205 the number of units built since the program was begun in 1959.

Training programs to improve job performance and assist career development involved 491 employees. The programs included basic training for native northerners, for new employees in the smelter and mine department, supervisory training and special instruction for all superintendents and department heads on various aspects of the Collective Bargaining Agreement. At year-end there were 107 apprentices registered in 11 industrial trades.

At year-end there were 2,363 employees on the payroll, compared with 2,372 at the end of 1976. The number of employees who completed 25 years of service during the year was 81, which increased membership, including past employees, in the 25-Year Watch Club to 1,557. There were 603 employees with 25 or more years of service on the payroll at year-end.

Metal prices and markets

The instability of the copper market was reflected by eight changes in the Canadian producer price for copper wirebar during 1977. Although the price rose from 67.125¢ per lb. at the beginning of the year to a peak of 78.375¢ at the end

of March, the increase could not be maintained due to cheaper merchant copper and the price dropped to 65.125¢ by August. By year-end the price had recovered to 69.75¢.

The London Metal Exchange (LME) cash settlement price for copper wirebar rose from 62.005¢ per lb. in January to 73.7¢ in March and declined steadily thereafter to 54.7¢ in August. Although LME sterling prices remained fairly steady for the remainder of the year, the declining value of the Canadian dollar raised the equivalent prices to 63.42¢ per lb. by December 30.

The geographical distribution of copper sales volume was as follows: Canada – 27% (37% in 1976); export – 73% (63%).

The zinc market suffered two reductions in the Canadian producer base price: from 36.25¢ per lb. to 35.5¢ in May, and to 32.5¢ in October where it remained until year-end. In Europe the widening differential between the European producer price of U.S.$795 per metric ton (36.59¢ Cdn. per lb.) and the LME cash settlement price led to a reduction of the producer price to U.S.$700 and then to U.S.$600 (30.18¢ Cdn. per lb.) in November as the former level could not be maintained. The differential between the sterling equivalent of the European producer price and the LME cash settlement price was not sufficient to create further pressure on the European price.

The geographical distribution of zinc sales volume was as follows: Canada – 54% (50% in 1976); U.S. – 37% (43%); overseas – 9% (7%).

The gold price rose steadily throughout the year from U.S.$134.55 per oz. to U.S.$165.60 by year-end. Similarly, silver moved from U.S.$4.375 per oz. to U.S.$4.756 by the end of December.

Whitehorse Copper Mines Limited

Net earnings for 1977 were $102,647, compared with $435,000 for 1976 before an extraordinary item. The extraordinary item was a reduction of $123,000 in income tax on carry-forward of prior years' losses, which increased 1976 earnings to $558,000.

Production of ore from the joint venture was at a rate of approximately 2,470 tons per day, grading 1.65% copper, and totalled 901,459 tons. Concentrate production totalled 31,151 tons with an average grade of 42.28% copper. All the concentrate was shipped to Flin Flon under a long-term sales contract with Hudson Bay Mining.

The new crusher at the 1,300-foot level and conveyor system have improved the flow of ore from underground. Layouts for production from the Middle Chief and North Fault zone were also completed.

Proven and probable reserves of diluted (recoverable) ore were increased by 461,934 tons in 1977. At year-end, the ore reserves totalled 3,189,847 tons, compared with 2,727,913 tons at the end of 1976.

A one-year agreement was signed with the United Steelworkers of America and became effective on January 1, 1978. It provides for a total compensation increase that does not exceed the 6% limit stipulated by the AIB.

Exploration

In early 1978 Hudson Bay Exploration and Development Company Limited acquired a 32,000-acre mineral property, situated 60 miles east-southeast of Flin Flon, which was formerly held by Freeport Canadian Exploration Company in a joint venture with Beth-Canada Mining Company. The terms of the purchase included a cash payment of approximately $800,000 and the assumption of a royalty obligation to the original prospector-vendors of 25¢ per ton of ore mined, against which an advance royalty payment of $125,000 had already been made.

The property contains the Spruce Point copper-zinc deposit at the south shore of Reed Lake and several other indications of economic mineralization which have not been fully tested. Diamond-drilling at Spruce Point has outlined 500,000 tons assaying 2.8% copper and 4.5% zinc. Further exploration of this zone is not feasible by surface drilling and substantial additional expenditures will be required to investigate further the potential of the deposit from underground.

Hudson Bay Exploration explored for its own account in Manitoba, Saskatchewan and southwestern U.S., and participated with Anglo American Corporation of Canada Limited (Amcan) and Tombill Mines Limited in joint-venture programs in British Columbia, Yukon, Ontario, Quebec and in certain uranium-prospect areas in Saskatchewan. Diamond-drilling on exploration projects totalled 75,387 feet, 194 geophysical anomalies were tested and several mineralized zones were investigated.

The 1978 budget controlled by Hudson Bay Exploration totals $4.3 million. It includes approximately $850,000 to be contributed by Amcan and Tombill under a joint-venture agreement and about $360,000 from the governments of Manitoba and Saskatchewan under joint-venture agreements involving programs planned on properties held in those provinces. It is anticipated that participation by the Manitoba government in joint-venture exploration programs will be discontinued at the end of 1978.

The EM-30 Mark III airborne electromagnetic survey system mounted in the DC-3 aircraft became operational and flew surveys totalling 18,355 line-miles over some of Hudson Bay Exploration's project areas in Manitoba, Saskatchewan and Ontario. Hudson Bay Exploration plans to use the new EM-30 Mark III system in the flying of approximately 22,000 line-miles of survey over its own project areas during 1978.

Minsearch Surveys flew 2,716 line-kilometres of test surveys with the Barringer Airtrace System in Australia and Fiji. Two ancillary systems were designed to provide additional data for energy resource exploration: one to detect uranium present in the samples of particulates collected; the other to provide in-flight measurements of volatile hydrocarbons, mercury, and iodine.

Oil and gas

Canadian Merrill Ltd.

Gross oil and gas revenues for the fiscal year ended June 30, 1977, totalled $16,181,000, up from $10,382,000 for the previous year. Cash flow before current income taxes increased to $6,120,000 from $3,550,000 and net earnings increased by 79% to $3,555,000 ($1.72 per share) from $1,987,000 (99¢ per share).

In October, 1977, Merrill shareholders approved a change in the company's fiscal year-end to December 31. For the six months ended December 31, 1977, gross oil and gas revenues totalled $10,432,000, up from $7,761,000 for the same six-month period in 1976. Cash flow before current income taxes increased to $3,807,000 from $3,307,000 and net earnings before extraordinary items were $1,685,000 (70¢ per share), compared with $1,671,000 (81¢ per share). Net earnings after extraordinary items were $1,685,000 (70¢ per share), compared with $2,020,000 (98¢ per share) last year.

Production. Natural-gas production to June 30, 1977, increased to an average of 32.4 million cubic feet per day (MMcfd) from 26 MMcfd for the 1976 fiscal period. The average producing rate in the six-month period to December 31 was 35.3 MMcfd. Crude-oil production to June 30, increased to an average of 660 barrels per day (Bopd) from 614 Bopd in 1976. The average producing rate in the six months ended December 31 was 676 Bopd.

Reserves. Total proved and probable reserves on December 31, 1977, were estimated at 423 billion cubic feet of gas and 2,450,000 barrels of crude oil and natural-gas liquids, compared with 290 billion cubic feet of natural gas and 2,081,000 barrels of crude oil and natural-gas liquids on June 30, 1976. The company's successful drilling program in western Colorado is chiefly responsible for the significant increase in gas reserves.

Merrill's drilling program in the 18 months ended December 31, 1977, involved 63 gross (29.8 net) gas wells, 7 gross (5.1 net) oil wells, and 18 gross (10.5 net) dry holes, totalling 88 gross (45.5 net) wells.

Francana Oil & Gas Ltd., including Trend International Limited

Consolidated gross revenue, before royalties, was $67,814,000, up from $56,555,000 for 1976. Funds generated from operations, after income taxes, totalled $26,787,000, compared with $23,479,000 for 1976. Net earnings were $9,908,000 ($1.27 per share), compared with a loss, including an extraordinary item, of $18,136,000 ($2.33 per share) for 1976.

Francana's North American operations, excluding Trend, contributed $11,075,000, or 16.3%, to total revenues and $2,226,000, or 22.5%, to earnings from operations. Trend's contribution of $56,739,000 to consolidated revenues was derived 91% from Indonesian operations and 9% from North American operations.

Roughnecks adding a length of drilling steel on gas-drilling rig in west-central Alberta

Production and sales. Crude-oil production from Trend's Indonesian project peaked during the first quarter. As a result of natural reservoir decline, the first-quarter average rate of 91,367 Bopd had declined to approximately 69,000 Bopd by the fourth quarter. The 1977 average producing rate was 78,007 Bopd, compared with an average rate of 75,664 Bopd in 1976.

Sales from Trend's North American operations were 428,170 barrels of crude oil (1,173 Bopd) and 766 million cubic feet of natural gas (2.1 MMcfd) before royalty deductions. Average rates in 1976 were 979 Bopd and 1.7 MMcfd. Operating profit (revenue less royalties and operating expenses) was $3,122,260, marginally higher than 1976's operating profit.

Sales, before royalties, from Francana's North American operations totalled 751,300 barrels of crude oil (2,058 Bopd) and 3,378 million cubic feet of natural gas (9.25 MMcfd). The comparable average 1976 rates were 1,904 Bopd and 8.1 MMcfd, respectively. Operating profit after tax was $5,662,000, up by 37% from $4,132,000 for 1976.

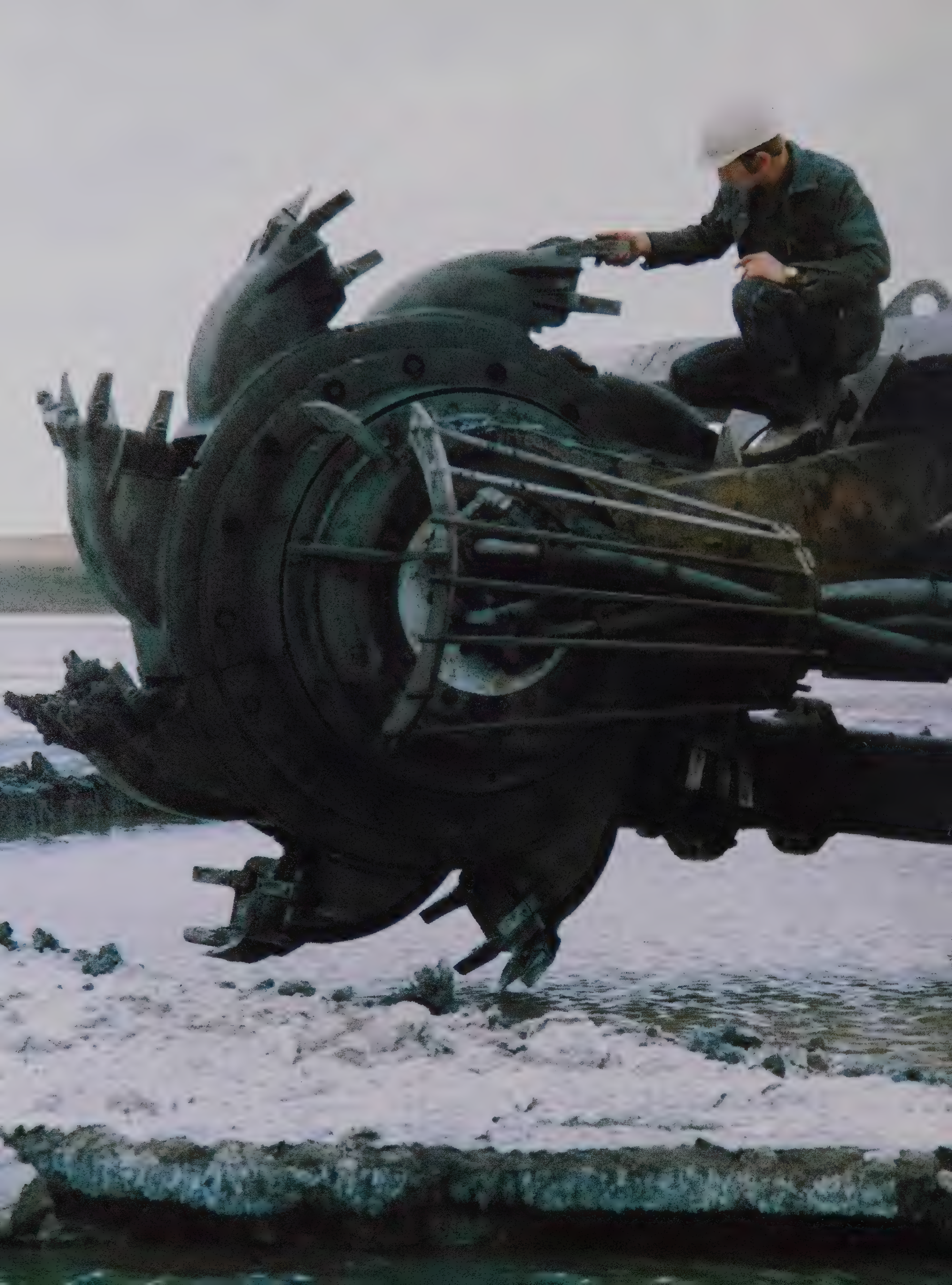
Exploration and development. Consolidated capital expenditures totalled $13,416,000. Expenditures for land acquisition and retention, geological and geophysical work, drilling and production equipment were $5,040,000 for Trend Indonesia and other non-North American areas of activity, $2,233,000 by Trend in the U.S. and $6,065,000 by Francana in Canada.

Exploration and development drilling programs completed in 1977 by Francana and Trend included participation in 140 gross wells distributed as follows:

	Oil	Gas	Gas & oil	Dry	Total
Indonesia	22	0	0	12	34
Trend U.S.	14	3	1	19	37
Francana Canada	20	21	1	27	69
Totals	56	24	2	58	140

The net wells drilled by the company in Canada and the United States totalled 24.6, of which 12.2 were completed as oil and/or gas wells. Trend does not assign a net well classification in Indonesia. In addition to the foregoing, Trend participated in seven wells at no cost to the Company as a result of acreage contributions.

Reserves. Francana's proved and probable reserves in Canada, excluding Trend, were estimated to be 14,888,000 barrels of crude oil and 99,024 million cubic feet of natural gas at year-end. Trend's North American proved and probable reserves were estimated to be 4,319,000 barrels of crude oil and 13,991 million cubic feet of natural gas. The terms of the production-sharing contract with Pertamina, Indonesia's state-owned oil agency, require that Indonesian reserves be kept confidential.



Industrial products

Francana Minerals Ltd.

The market for detergent-grade sodium sulphate remained relatively steady and prices remained unchanged. Raw-material recovery, which had been hampered by unfavorable weather during the past three years, has improved. The dredge, after further modification, supplied acceptable quantities of Glauber's salt during summer and fall. In addition, a good supply of Glauber's salt crystallized from rich brine accumulated during the summer was ready for stockpiling at year-end.

Production and sales of salt cake (lower-grade sodium sulphate) remained low since inventories of finished pulp at home and abroad forced Canadian pulp mills to operate at well below capacity. In addition, the increased supply of byproduct salt cake from various sources created marketing problems. Although prices held steady in Canada, there was widespread price-cutting in the U.S. and only better-quality salt cake could be sold.

Increased costs for fuel, power and labor, combined with a large increase in royalty payments, reduced profits to an unsatisfactory level. Debt, however, was reduced significantly.

Zochem Limited

Sales of regular grades of zinc oxide were satisfactory but production problems inhibited full development of the Zocofax photoconductive-grade market in the first half of the year. Markets in Canada and Europe were depressed throughout the year, continuing the trend that became evident toward the end of 1976, and even the U.S. market showed no particular strength. The major markets for zinc oxide – rubber products and photoconductive paper – are still not back to normal. In addition, the increased capacity in North America and aggressive marketing by Canadian, Mexican and European producers in the U.S. market resulted in unstable pricing for the first time in 12 years.

A large inventory at the beginning of the year forced a cutback in production for approximately half the year in order to reduce stocks to a satisfactory level. Production for the year overall was about 50% of capacity and tight control over operating costs was maintained after solving the grade problems. Despite these measures, a loss for the year was incurred.

Hudson Bay Diecastings Limited

The plant's buffing and chrome-plating capacity will be doubled by a 40,000-sq.-ft. extension being built and equipped at an estimated cost of $5.3 million. Construction began in July and completion is scheduled for the third quarter of 1978, in time to supply diecastings for 1979 model automobiles and trucks. The additional capacity will further improve the company's ability to supply the U.S. automotive market, being one of the few suppliers with its own casting and plating facilities.

Production during the year was higher than expected and 3,489 tons of zinc were processed. The higher output together with the favorable U.S. dollar exchange rate with respect to sales in the U.S. resulted in a profit for the year that was higher than in 1976.

Potash sales

Following the sale of the potash division to the Potash Corporation of Saskatchewan, the Sylvite sales staff began to dispose of Sylvite-owned product in storage in Canada and the U.S. Agreements with warehouse operators in the U.S. were terminated satisfactorily but warehouse contracts in Canada were kept in force as a result of an exclusive agreement entered into with Cominco Ltd. at midyear to market its potash in Eastern Canada.

Checking cutting teeth on dredge used by Francana Minerals

Fertilizers, agricultural products

Terra Chemicals International, Inc.

Terra, an agricultural manufacturing and marketing organization with headquarters in Sioux City, Iowa, manufactures nitrogen-based fertilizers and nitrogen feed ingredients and distributes chemical fertilizers, crop-protection chemicals and feed ingredients. Manufactured and purchased nitrogen, phosphate and potassium products are marketed to wholesale dealers and distributors throughout the U.S.; feed-grade urea is sold to feed manufacturers. Fertilizers, agricultural chemicals and other farm-supply products are sold direct to farmers through a widespread network of retail outlets.

Financial results. Net earnings totalled $7,971,000 ($1.27 per common share), compared with earnings of $11,994,000 ($2.03 per share) for 1976. Revenues were $109,539,000, up by 6% from $103,346,000 in 1976. During the first six months, Terra reported higher revenues than for the same period in 1976; selling prices were fairly firm and tonnage volume was good. Sales volume, however, was adversely affected in the third and fourth quarters by low grain prices and uncertainty regarding the federal government's agricultural policy. Margins were somewhat reduced as a result of increased costs, principally for natural gas in preparation for increased production from new manufacturing facilities at Woodward, Oklahoma, and for additional retail sales activity in connection with the new irrigation equipment and PRO-SIL® (a silage additive) businesses.

Expansions. The new 1,200 ton-per-day $120-million ammonia plant in Oklahoma is producing at full capacity. Bison Nitrogen Products Co., in which Terra has a 65% interest and is the managing partner, is in the final stages of building an upgrading facility adjacent to the Oklahoma plant. The new plant will convert 125,000 tons of ammonia per year to 270,000 tons of nitrogen fertilizer solution and 20,000 tons of liquid feed urea. Startup is planned for the first quarter of 1978. Completion of a $6.2-million expansion of urea-producing facilities at Terra's Port Neal manufacturing complex is scheduled for the summer of 1978. Urea-liquor production will be increased from 545 to 770 tons per day; concurrently, 250 tons per day of a high-quality granulated fertilizer urea will be produced.

Terra has purchased a portion of the assets of Riverside Chemical Company, formerly a subsidiary of Cook Industries, Inc., of Memphis, Tennessee, consisting of fertilizer bulk-blending operations and agricultural chemical formulation and distribution facilities located mainly in southern states. The acquisition of these facilities reflects Terra's planned program of expansion into the south and southwest to utilize the additional fertilizer products available from the company's share of production at Woodward.

Terra's urea plant, in background, at Port Neal, Iowa; the acid plant compressor building is in foreground

U.S. copper mining

Inspiration Consolidated Copper Company

Inspiration Consolidated Copper is an integrated natural-resources company. Its principal business is the production and sale of copper from its Arizona operations, which includes mines, smelter, refinery and rod-fabricating and sulphuric acid plants. Inspiration also smelts copper-bearing materials for other producers.

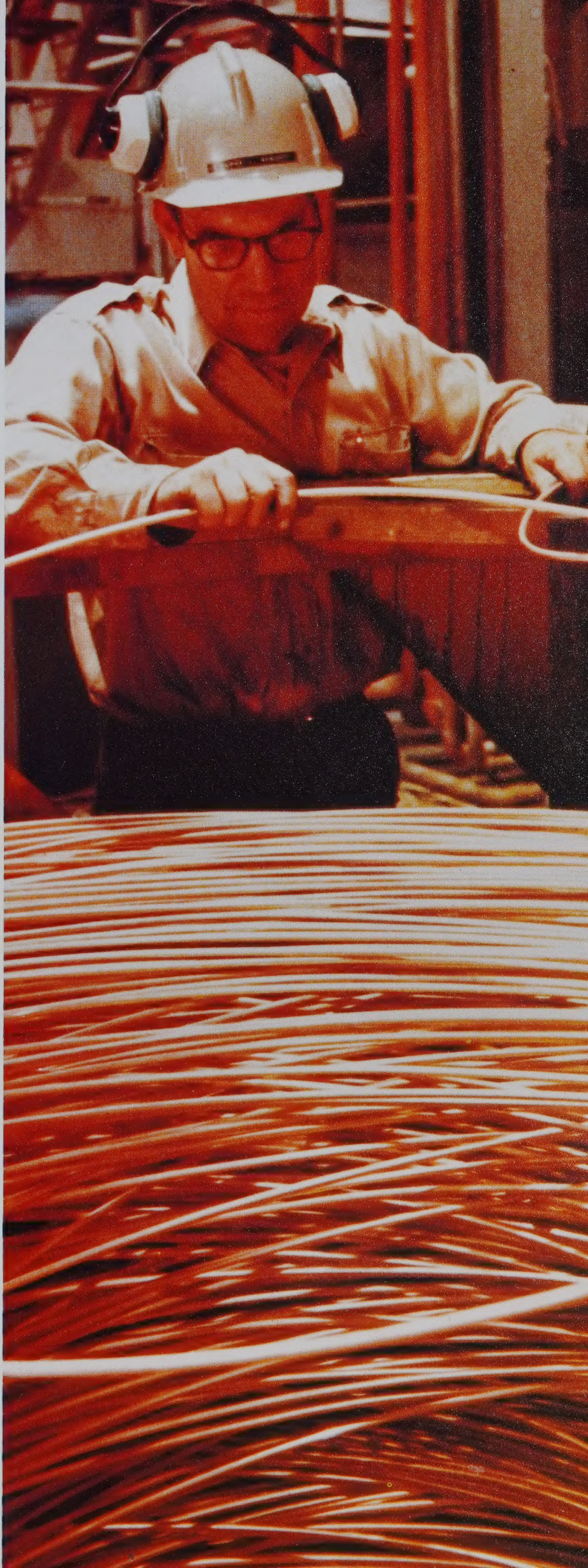
A loss of $11,142,000 was incurred, compared with a profit of $126,000 for 1976. The main factors responsible for the loss were weak prices, low demand and a strike during July and August. All mining and concentrating operations remained closed from August until year-end. The low demand for Inspiration copper following the strike was met by recovering partly processed material in inventory at the smelter and by treating part of a substantial inventory of cement copper.

Production and sales. Deliveries of copper totalled 90,873,000 lbs. at an average price of 66.84¢ per lb. Gross revenue was $95,676,000, derived mainly from sale of copper and minor amounts of other metals, smelting copper-bearing materials for other producers and a small contribution from toll refining. Comparable figures for 1976 were gross proceeds of $91,425,000 from deliveries of 90,593,000 lbs. of copper at 69.48¢ per lb. By year-end the long-term debt was reduced to $28,500,000.

Production from Inspiration-area mines was approximately 35% of annual capacity and 50% at the Christmas Mine, 40 miles southeast from Inspiration, all of which took place in the first half of the year. Smelter operations continued to improve as problems, particularly in the gas-handling and cleaning systems, were overcome. A total of 116,000 tons of blister and anode copper was produced during the 10 months of operation, which is 77% of the rated annual capacity of the plant.

During the strike – which affected most U.S. copper producers – a major overhaul of the smelter and acid plant was undertaken using contract labor and staff employees. Problems identified during 1976 and in the first half of 1977 were rectified during the shutdown. The total cost of repairs and modifications was $6,100,000.

Competition keen. The U.S. copper industry in 1977 experienced one of its worst years since the early 1930's as demand for domestic copper dropped substantially. This was partly caused by copper from government-owned industries being imported at prices lower than U.S. producer prices. In addition, the cost of pollution-control facilities and the higher cost of operating sophisticated plants demanded by government legislation further reduced the ability of U.S. producers to remain competitive against copper from government-owned industries overseas which operated at full capacity without regard to profitability. The competitive position of U.S. producers was further impaired when costly wage settlements were reached in midsummer.



Inspiration's rod-fabricating plant in Arizona

Directors and Officers

Directors

*H.R. Fraser, Toronto
Chairman, Hudson Bay Mining

†J.L. Carpenter, Toronto
Executive Vice-President
Hudson Bay Mining

*H.P. Crawford, Q.C., Toronto
A Senior Partner, Osler, Hoskin & Harcourt
Barristers and solicitors

*E.P. Gush, Toronto
President, Hudson Bay Mining

M.B. Hofmeyr, London
Chairman and Managing Director
Charter Consolidated Limited
A mining-finance house

†R.H. Jones, Winnipeg
President and Chief Executive Officer
The Investors Group
A financial holding company

*†A.T. Lambert, Toronto
Chairman
The Toronto-Dominion Bank
A Canadian chartered bank

H.C.F. Mockridge, Q.C., Toronto
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*W.A. Morrice, Toronto
Former President, Hudson Bay Mining
Retired

G.W.H. Relly, Johannesburg
Joint Deputy Chairman
Anglo American Corporation of South Africa Limited
A mining-finance house

A. Sweatman, Q.C., Winnipeg
Partner, Thompson, Dorfman, Sweatman
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J.D. Taylor, Q.C., Johannesburg
Manager, Anglo American Corporation of South Africa Limited

*Member of the Executive Committee
†Member of the Audit Committee

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E.P. Gush
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Executive Vice-President

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Senior Vice-President – Finance

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Senior Vice-President – Petroleum

C.K. Taylor, Q.C.
Senior Vice-President – Administration
Secretary and General Counsel

J.S. Warick
Senior Vice-President – Operations and Technical Development

R.B. Cairns
Vice-President – Exploration

K.S. Dalton
Vice-President – Finance and Treasurer

J.R.G. Sadler
Vice-President – Canadian Metals Division

Dr. C.L. Sarthou
Vice-President – Market Research and Development

S.R. Horne
Investment Manager

S.A. Hayward
Assistant Secretary and Assistant Treasurer

Miss S. Kozel
Assistant Secretary

P.H. Page
Comptroller

Corporate Information

Hudson Bay Mining's Head Office is on the 25th and 28th floors in the Toronto-Dominion Tower (the tallest of the three black office buildings shown, which comprise the Toronto-Dominion Centre) in Toronto's financial district.

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Morgan Guaranty Trust Company
of New York – New York, N.Y.

Registrars
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Montreal, Regina.
Crown Trust Company –
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